

INDEX OF SURGICAL PROGRESS.

GENERAL SURGERY.

OPERATIVE SURGERY : SURGICAL ANATOMY : SURGICAL INSTRUMENTS AND APPARATUS.

I. Simplified Technique for Extirpation of Atheroma. By Dr. C. LAUENSTEIN (Hamburg). The attenuated skin over wens in the scalp makes it difficult to peel out the cyst, after the usual cross-incision, without rupture. The cut skin also becomes relaxed and so retards its separation.

L. makes a 1 to 1½ ctm. long radial incision through the skin at the lowest point of the little tumor, pushes in the small handle of the scalpel on the flat, and by lateral strokes quickly separates off the skin. A clip with the scissors then sufficiently lengthens the incision to finish removal. *Centralb. Chirg.* 1886. No. 26.

W. BROWNING (Brooklyn).

II. A New Operation for Fracture of the Patella. Subcutaneous Patellar Suture with Silver Wire. By Prof. ANTON CECI (Genna). After pointing out the main disturbances incident to fracture of the patella, the author first concisely reviews the different methods of treatment heretofore recommended and practised for the injury. Suture he believes hardly encouraging, in the face of the existing statistics; yet appliances and bandaging frequently in his opinion cause ankylosis, and hardly ever effect good consolidation. The author therefore proposes the following method of treatment, which he believes equally serviceable in recent cases and in those of long standing, as well as in cases where a lengthy fibrous callus has been formed without any fear of ankylosis obtaining; he also recommends it as a prophylactic measure in recurrent fractures.

Before operating, the effusion into the joint should be removed by

aspiration, especially if it be large, and the joint washed out afterward; or a splint may be applied and the operation deferred for about three days, until absorption have been completed.

The operation is performed with the help of a drill; this is described as a small cylindrical rod of pliable steel, 2 mm. in diameter and about 8 cm. in length, the end of which resembles a fine raspatory and is perforated with an eye. This end should be broader than the rod. An assistant holding the limb of the completely narcotized patient in hyperextension, approximating the two fragments of the patella and moving the skin in folds towards the centre of the patella; the operator pierces the skin with the drill under the patella and forces it with slight rotatory movements diagonally through the substance of the patella, keeping it parallel to the larger surfaces of the bone, and transfixing it in an oblique direction from the inner part below, upwards and outwards. The point passes out through the skin above. He now threads the eye with a silver wire and, retracting it, pulls the wire through the patella and out at the first point of insertion. He then repeats the operation in the other diagonal line of the patella, in like manner, but at right angles to the first perforation, having previously passed the wire under the skin around the lower margin of the patella to the lateral aspect of the bone. He then again passes the end of the wire under the skin above the upper margin of the patella, and finally twists the two ends thus approximated tightly together, and buries the twisted part. The assistant must hold the fragments in apposition unmoved throughout the operation, and care must be taken not to get the wire tangled or twisted into loops. The skin having been moved out of place during the drilling, the perforations are removed from the wire when the tension is relaxed.

The wire lies to a great extent embedded in the substance of the patella in the shape of a figure 8. The whole procedure is to be carried out under strict antiseptic precautions, and may be speedily performed.

The indications for the operation are given as follows: (1) Patellar fracture of recent occurrence (perfect adaptation being always possible in narcosis). (2) Fractures of longer standing; freshening up of the edges is unnecessary since the irritation caused by the wire alone suffices

to produce the required callus. (3) Recurrent fractures, for which the operation is a prophylactic measure.

The author has twice performed the operation with excellent results.—*Deutsch. Zeitsch. f. Chir.* Bd. 23. Nos. 3 and 4. March 10. 1886.

III. On the Fasciæ and Interfascial Spaces of the Neck.
By Dr. KR. POULSEN (Kopenhagen). Various authors very widely differ in their opinions as to the descriptive anatomy of the cervical fasciæ. The reason for this lies in the fact that the fasciæ of the neck do not correspond to those of the extremities. A connective tissue only more or less sparingly interspersed with fibrous elements, takes the place of fascia in the neck. The results of dissections, therefore, may vary, one anatomist finding two laminae where another finds none at all, according to the development or the leanness of the subject and the technical skill of the dissector.

Henke, indeed, who examined the anatomy of the neck with the help of artificial local injections, came to the conclusion that in reality no continuous fascia of the neck existed.

Viewing this conclusion somewhat skeptically, the author followed a different mode of investigation. He first froze his subject by means of salt and ice, and then made a series of sections through the neck with a saw. After hardening the sections in alcohol for one month, he could easily perceive and trace out the connective tissue and thus obtain suitable specimens for demonstration to aid him in his subsequent experiments.

For wherever he discovered interfascial spaces, he injected colored masses and thus endeavored to show their configuration and inter-relation, and to demonstrate, upon a basis of surgical anatomy, the true conditions favoring the descent of abscess-pus along the fasciæ.

These experiments were performed on 64 cadavers, about 100 separate injections being made, which are given in detail. Upon the results obtained the author bases his description of the fasciæ of the neck and the spaces between them; he points out, however, that the course which abscesses follow in their descent may vary from the course taken

by his injections, owing to the readiness with which pus destroys tissue.

Among the spaces minutely described are the following: (a) supra-sternal space; (b) inferior cervical triangle; (c) retrovisceral, and (d) previsceral space; (e) the spaces inclosing the artery and the vein; (f) the submaxillary region; (g) the parotid; (h) the sterno-cleido-mastoid region, and (i) the lateral region of the neck.

Two handsome colored lithographic plates accompany the article.—*Deutsch. Zeitsch f. Chirg.* Bd. 23. Hft. 3, 4. March. 1886.

W. W. VAN ARSDALE (New York).

IV. Antiseptic Surgical Instruments. By Dr. TH. HEIDENREICH (Moscow, Russia). In the surgical section of the Congress

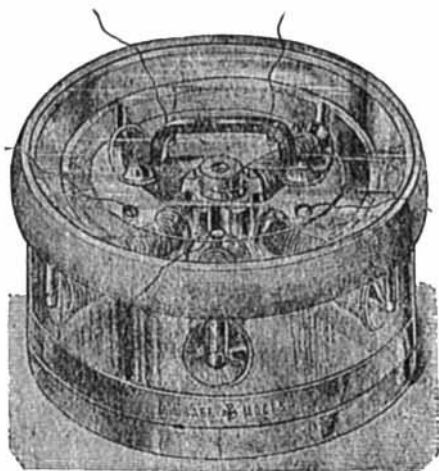


FIG. 1. LIGATURE JAR. Showing construction.

of Russian physicians, held last January in St. Petersburg, Dr. Heidenreich read a paper on "Antiseptic Surgical instruments," using for demonstration the instruments manufactured by the firm Shvabe, of Moscow. Dr. H. holds that in order to be antiseptic the instruments must be made of a hard material which could not be scratched and in which no crevices could be formed. The material must resist chem-

ical or thermic influences, and must not rust after having been treated with an antiseptic fluid. The instruments must be made of a single solid piece of metal, or at least they must be easily taken apart without help of any tools. All parts of the instruments must be smooth and round, admitting no sharp edges, corners or blind holes. Steel and glass are the only material which can be kept aseptic, the former being nickel-plated or galvanized.

In 1879 Shvabe for the first time prepared the antiseptic cases of instruments for the physicians who were to battle against the plague in

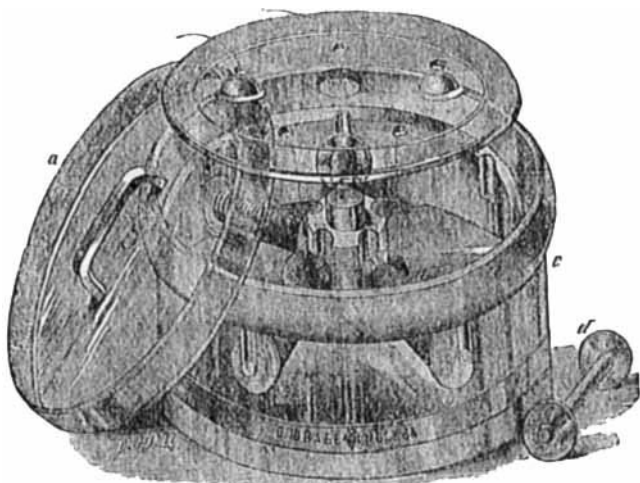


FIG. 2. LIGATURE JAR. Ready for use.

south Russia. The cases proper were made of polished wood, capable of a thorough disinfection; no silk or velvet was used in them. Since then Shvabe has tried to observe the principles laid down above, and with success. In his factory he has discarded completely wood, bone and even vulcanized rubber, making his instruments of solid steel. This example is now followed by many manufacturers in Germany and Austria.

It is of great importance for surgeons to have disinfected silk at hand. Shvabe makes a special jar for that, holding five numbers of silk, hermetically closed and yet easily accessible (Fig. 1). This jar

consists of the following parts shown in the illustration: a round jar (*c*) contains an axis with five grooves, to which correspond as many grooves in the jar itself. In these grooves are placed spools (*d*) made of a dull glass; silk is wound on these spools. A flat lid of glass (*b*) covers the jar; it has a large hole in the centre, corresponding to its axis, and five small holes, marked by figures from 1 to 5, and designed for passing the ends of silk from the spools. The lid can be lifted by means of two button-shaped handles. The exterior lid hermetically covers the jar; it is provided with a handle. As all the parts of the jar are made of glass, they can be thoroughly disinfected. The same jars are made for wire.—*Chirurgitchesky Vestnik*. (St. Petersburg). March, 1886.

P. J. POROFF (Brooklyn).

HEAD AND NECK.

I. On Trephining for Hæmorrhage from the Middle Meningeal Artery into the Closed Cranial Cavity. By Prof. KROENLEIN (Zürich). The substance of this paper, read before the 58th convention of German Scientists and Physicians at Strassbourg in September last, forms a complement to Wiesmann's article on the same subject,¹ the author extending the conclusions drawn from the observation of cases at the Zürich clinic, up to the present time.

Within the last three years, it appears, the author had occasion to trephine four times for rupture of the middle meningeal artery; the operation, however, only proved successful in two of the cases, and the fatal termination of the other two, with their post-mortem evidence, first suggested the plan of operative procedure set forth in the present paper.

Two of these cases have already been given by Wiesmann, to which the author adds two new ones, and, referring to W. in all points of symptomatology and diagnosis—so fully does he endorse his assistant—proceeds to ask in what manner we shall act, when the diagnosis of brain-pressure resulting from rupture of the meningeal artery has been arrived at by means of cerebral symptoms alone, and when no marks

¹ Vide ANNALS OF SURGERY. Vol. 2, p. 502. Dec. 1885.

of external violence indicate the point of lesion. In these cases W. had proposed to apply the trepan at different points at random, being led by attempts at localization of the cerebral symptoms. But the present author proposes to advance methodically in all cases according to a fixed plan of action, deducible from the following considerations.

All hæmatomata resulting from rupture of the arter. mening. med. or its branches, though individually varying within certain limits in form, may be reduced to certain types—at least when grouped according to the symptoms of diagnostic importance. One group, the diffuse hæmatomata, may extend over the inner surface of an entire half of the skull, extending from the internal occipital protuberance to the frontal tuberosity and from the falx cerebri down to the planum orbitale, the floor of the temporal cavity and the tentorium cerebelli respectively.

Another group, the circumscribed hæmatomata, being more sharply defined than the diffuse ones, and representing a circle or an oval in outline, and a lens in shape (as being of greater thickness in the centre than at the margin) may be subdivided according to location.

The most frequent forms are those situated over the middle cerebral cavity, and bounded in front by the margin of the lesser wing of the pterygoid, at the back by the edge of the petrous pyramid (on account of the firmer adherence of the dura mater to the bone at this point), below, by the region of the foramen spinosum, and above, by points beyond the squamous suture, or situated as far up as the margin of the semicircular plane.

Less frequent forms of circumscribed hæmatomata occupy only the region below the parietal tuberosity and do not encroach upon the middle cerebral cavity. They extend upwards to the falx, posteriorly to the internal occipital protuberance and downwards as far as the cerebellar tentorium.

This form the author calls hæmatoma posterius s. parieto-occipitale. The least frequent are the hæmatomata anteriora s. fronto-temporalia; these are situated beneath the frontal tuber and extend downwards to the planum orbitale, from part of which the dura may be torn away, and backwards to the suture cruciata.

The variation in the sites of these tumors is due to variations in the point of rupture, which again depends upon the location and description of the traumatism. The trunk or the larger or smaller branches of the artery may rupture. Generally speaking, rupture of the anterior branch of the anterior division of the artery causes the anterior hæmatoma, while the posterior one is caused by rupture of the posterior branch beyond the point where it passes the pyramid.

The temporo-parietal form, the first one mentioned, ensues after rupture of one of the vessels situated in the temporal cavity. In case the hæmorrhage is slight the circumscribed variety results, otherwise a diffuse hæmatoma is formed. These forms are most frequent for the reasons that the temporal region is very vulnerable, and that the largest vessels are here met with.

Varying location of these hæmatomata unquestionably produces a difference in the symptoms, according to the seat and extent of the lesion and its local effect upon the psychomotor cortical provinces—in some cases contralateral paralysis of the upper extremity alone, in others of the facialis alone; again in others paralysis of the upper and lower extremity combined, resulting. But frequently the cases are not such simple ones, and complications such as concussion, contusion of the brain and apoplectic foci exist, and the patient may be intoxicated, so that the surgeon is satisfied, if at all he can diagnose rupture of the artery and decide upon which side it is situated.

The question, then as to the point where the trephine is to be applied, is to be answered in the following manner: By perforating the skull in the temporal region, we gain access to the area of both the diffuse, the temporo-parietal and the fronto-temporal hæmatoma, and can thus remove the extravasated blood, although we here do not meet the trunk, but only the main anterior branch of the middle meningeal artery. But since the circumscribed parieto-occipital hæmatoma is not accessible at this point, if the first perforation prove of no avail, a second opening should be made in the occipital region to meet the vital indication.

A second opening of this sort is, in fact, advisable in cases of diffuse hæmatoma to permit the more thorough removal of the coagula and ensure complete drainage.

As to the exact localization of the points at which to apply the trephine, the author gives the following directions: Draw a line parallel to the horizontal line of the skull (which runs through the inferior orbital margin to the entrance of the auditory meatus) through the superior orbital margin. Both points are situated upon this line, the anterior one 3 to 4 ctm. behind the zygomatic process of the frontal bone; the posterior one at the point of intersection of this line with a vertical one carried upwards directly behind the mastoid process.

The localization of the various forms of hæmatomata and of the points selected for trephining is illustrated by diagrams.—*Deutsch. Zeitschr. f. Chir.* Bd. 23. Nos. 3 and 4. March. 1886.

W. W. VAN ARSDALE (New York).

II. A Case of Tracheocele. By G. DAREMBERG, M.D. (Menton) and A. VERNEUIL, M.D. (Paris). A man, æt. 73, who had long had a dry, wheezing cough, aside from which his health had always been excellent, presented, in 1884, a small tumor on the left of the trachea, which it seemed to compress, with a prolongation behind the clavicle the tumor being apparently localized in the corresponding lobe of the thyroid gland. There was slight cough, wheezing and suffocation on attempting to ascend stairs; with some variations under various methods of treatment, this tumor continued to develop until in November, 1885, the neck had undergone a great increase in its total volume, without any cutaneous œdema, inflammatory redness nor any vascular dilatation except in the supra-clavicular triangle where the veins were swollen; the movements of the larynx in deglutition and respiration were normal; the trachea was deviated slightly to the right; deglutition has been difficult but not painful for a year, although the ingestion of certain matters has caused paroxysms of suffocation. On the left side of the neck was the tumor, which would appear suddenly and disappear as quickly; at first of small size, it now filled the entire space included between the lower jaw and the clavicle, and between the median line and the posterior border of the sterno-mastoid muscle; its appearance is provoked only by coughing, although cough does not necessarily produce the tumor; it may appear from five to fifty times a day; its persistence is no less variable; sometimes the protrusion

appears and disappears with the paroxysm of coughing, like a balloon, to be inflated and collapsed by expiration and inspiration; at other times, the distension lasts from ten seconds to a minute and a half; it may diminish in part, then stop for a few seconds, and then collapse in an instant; during distension, it is elastic tympanitic and constituted evidently by retained air, for the stethoscope reveals no respiratory murmur; pressure with the hand has no effect upon reduction, which is assisted by movements of deglutition or by inclining the head suddenly to the left shoulder. Beside the tumor on the left side, a similar smaller prominence, which never became larger than a walnut, was developed later in the right supra-clavicular triangle, behind the border of the sterno-mastoid muscle. The theory that the original tumor was a goitre of the left lobe of the thyroid gland was evidently untenable as well as that of a vascular tumor, although there existed a notable turgescence of the veins of the neck; and the diagnosis finally settled upon an aerial tumor, called aerial goitre or tracheocele, and characterized by sudden appearance and disappearance, indolence, the absence of inflammatory symptoms, sonorous resonance, the relation to cough and coexistence of troubles of respiration, phonation and deglutition. The most probable theory of the causation of the tumor is that, there being a constriction of the trachea (as shown by the wheezing, etc.), the membranous wall of the passage became dilated at a circumscribed point in the form of a sac, as occurs in certain aneurisms and synovial cysts; or the softened, inflamed and thinned wall, yielded during the pressure of expiration, the passage being impeded by a mass of mucus, and a sac was gradually developed in the loose inter-tracheo-oesophageal and deep cervical connective tissue, by the same mechanism as is observed in the formation of pneumoceles of the cranium. The danger is evidently in secondary laryngeal troubles, manifested by the paroxysms of suffocation. It was thought best to postpone surgical interference, and the patient finally died in April, 1886, supposably from a rapidly developing adeno-sarcoma of the peritracheal glands, there being a family history of cancer.—*Revue de Chirurgie*. 1886. May.

CHEST AND ABDOMEN.

I. **Gastrostomy for Cancer of the Œsophagus.** By A. D. KNEE, M.D. (Moscow, Russia). In 1880, in Moscow, Dr. Knee founded a private clinic of his own, specially for surgical cases. He has now 16 beds. For the last four years Dr. Knee has treated 27 cases of cancer of the œsophagus. The patients were 25 males and only two females. In the clinic were treated 17 patients, of whom 6 were lost sight of. Gastrostomy has been performed in 13 cases, of which in 10 the result was favorable and in 3 unfavorable.

The cases with favorable result were as follows:

No. 1. Male, æt. 49, sick 15 months; gastrostomy performed Jan. 2, 1882; lived after operation 9 months; cause of death, cancerous metastasis.

No. 2. Male, æt. 48, sick four months; gastrostomy Sept. 6, 1882; was alive 2 months since, but was lost sight of.

No. 3. Male, æt. 62, sick 5 months; gastrostomy Jan. 21, 1883; lived after operation 5 months and 28 days; cause of death, pleurisy.

No. 4. Male, æt. 40, sick 6 months; gastrostomy Aug. 30, 1883; was seen alive in December, 1883, but was lost sight of afterwards.

No. 5. Male, æt. 50, sick 8 months; gastrostomy Oct. 2, 1883; lived 5 months; cause of death pneumonia.

No. 6. Male, æt. 50, sick 8 months; gastrostomy Oct. 2, 1883; lived after operation 8 months and 17 days; cause of death, pneumonia.

No. 7. Male, æt. 62, sick 5 months; gastrostomy Jan. 13, 1884; lived 9 months; cause of death, cancerous diathesis.

No. 8. Male, æt. 41, sick 7 months; gastrostomy Feb. 7, 1884; lived 9 months and 6 days; cause of death, pneumonia.

No. 9. Male, æt. 59, sick 4 months; gastrostomy, April 14, 1884; was seen alive July 11, 1884, but afterwards was lost sight of.

No. 10. Male, æt. 56, sick 5 months; gastrostomy July 3, 1884; was seen alive November 6, 1884, but afterwards was lost sight of.

Cases with unfavorable result:

No. 1. Male, æt. 62, sick 12 months; gastrostomy Nov. 11, 1881; died within 36 hours; cause, perforation into the left bronchial tube.

No. 2. Male, æt. 39, sick 6 months; gastrostomy Dec. 28, 1883; died on 8th day, from bleeding.

No. 3. Male, æt. 61, sick 8 months; gastrostomy Nov. 15, 1884; died on 12th day, from exhaustion.

In Europe there are known 56 cases of gastrostomy (except those of Dr. Knee) with favorable result.

Dr. Knee protests emphatically against treatment with bougies or probes in cases of cancer of the œsophagus, for fear of perforation into trachea or bronchi, and also of premature opening of the cancerous tumor. No cicatrization can be hoped for in such cases. Out of 13 patients of Dr. Knee, 6 had a complete stricture of the œsophagus, and 7 could pass only small quantities of fluid. The operative technique adopted by Dr. K. is as follows: A primary incision in the abdominal wall, from 6 to 8 cm. long, from the 8th rib, along the margin of ribs. The peritoneum having been incised, he attached the peritoneal coat to the edges of wound. Then he extracted a portion of the stomach and attached it to edges of wound by from 15 to 20 Lembert sutures, taking care that sutures should pass only through the serous coat of the stomach. On having finished this first part of operation (laparotomy), the wound is dressed and the patient is ordered to take ice and opium. Four nutritious clysters per day. The wound was dressed again on 6th day. The stomach was opened on 8th or 9th day, and a tube from 5 to 6 mm. introduced. At first only liquid food (milk, wine, egg) was introduced through the fistula, and afterwards scraped raw meat and even roasted meat. Some patients took by fistula about six pounds of food per day. In one case there was an obstinate vomiting, which disappeared only gradually. Complete cicatrization took place on from 18 to 20 days after laparotomy; therefore Dr. Knee removed sutures only at the end of a fortnight.—*Chirurgitcheskiy Vestnik* (St. Petersburg) January. 1886.

P. POROFF (Brooklyn).

II. On Sublimate Intoxication after Laparotomy. By Dr. H. KUENMELL (Hamburg). K., who was so instrumental in introducing bichloride as an antiseptic, now reports his unpleasant expe-

rience with it. By limiting the use of this solution and employing principally strengths of 1 to 5-10,000 his first 170 major operations with it showed but one case of poisoning lasting a few days; this occurred in a very fat subject after amputation of the mamma.

Within a few months, however, he has had two cases of poisoning after peritoneal operations. His first nine laparotomies with it passed off well. Then came a fatal case of poisoning in a woman of 30 years. She was of slender build, and very anæmic from profuse uterine hæmorrhages. Interstitial myoma of uterus: laparotomy (operation lasting 1¼ hours). Cuneiform excision of tumor; slight loss of blood; warm sublimate solution, not stronger than 1 to 5-6000 was used; vomiting repeated during the night; diarrhœa set in next day, the passages soon containing blood; no fever. She became progressively weaker, and died four days after the operation.

Neither intra vitam nor at the autopsy was there any indication of inflammation about the uterine wound. In the mucous membrane of the ascending and transverse colon were several defects with sharp edges.

The second case was that of a rather anæmic but fairly nourished woman of 25. Papilloma (size of a baby's head) of right ovary, with a large encapsulated ascites. The left ovary, also diseased, was removed at the same time; operation at first well borne; vomiting during the day and severe collapse in the evening; stimulants hypodermically; extreme exhaustion the following day; vomiting had stopped, but the passages became bloody. Injection of 1500. grm. $\frac{1}{10}\%$ salt solution into the left basilic vein, with great improvement in the pulse; it, however, caused a subjective feeling of great fear, lasting all day. Threatening symptoms had subsided by the next day, though bloody passages continued a few days and gums and oral mucous membrane were ulcerated at many points. Final recovery. No relapse up to seven months *p. o.* "From former publications and the two histories just given, I believe we can draw the conclusion that in laparotomy on patients not too much reduced, sublimate solutions of 1 to 5-6000 may be used; that, however, in highly anæmic weakened individuals and

those with kidney affections it is safest to avoid sublimate altogether." *Centbl. f. Chirg.* 1886. No. 22.

WM. BROWNING (Brooklyn.)

III. Treatment of Recent Abdominal Wounds with Hernia of the Omentum. By H. HARTMANN, M.D., (Paris). The writer calls attention to the fact that, although French surgeons have adopted advanced views with regard to abdominal surgery in general, they still hold the method of allowing omentum, protruding from an abdominal wound, to cure itself by sloughing off, and then proceeds to give a detailed criticism of the authorities for this method, showing the crudeness of their reasoning, and that the failures of the method of ligature and return to the abdominal cavity, which caused its former repudiation, were due not to any defect in the method itself but to faults of its application, and recites three successful cases to show the perfect safety of ligaturing the protruding part and dropping it back into the abdominal cavity, all under careful antiseptic precautions, by which a surer, more rapid and more generally satisfactory cure was obtained than was possible by the expectant plan.—*Revue de Chirurgie.* 1886. May.

IV. The Significance of Collapsed Intestine in Laparotomy for Intestinal Obstruction. By J. E. MICHAEL, M.D. (Baltimore). Referring to a statement that a dilated intestine would indicate that the cause of the obstruction is lower down, while a collapsed intestine can only be expected on the peripheral side of the obstruction, the writer quotes two cases, which had come under his observation, in which the small intestine was collapsed while there was an obstruction at the sigmoid flexure, to show that the proposition is not strictly correct or invariably true.—*Med. News.* 1886. May 29.

V. Diagnostical Laparotomy. By C. JOHNSON, M.D. (Baltimore). This paper discusses the subject in a general way and is in accordance with prevalent views on the subject, calling attention to the fact that all intra-abdominal operations are to a certain extent ex-

plorative. Aside from this, he divides cases demanding laparotomy into two classes, (1) cases in which a diagnosis can not be made without its aid, and (2) cases in which, a diagnosis having been made, no definite line of operation can be marked out and no abandonment of active measures entertained or justified. The diagnosis ought to be established in every case, and the opportunity offered by laparotomy should not be delayed too long.

A. VAN DERVEER, M.D. (Albany, N. Y.), speaking approvingly of laparotomy as a diagnostical method, reviewed the points upon which surgeons are at variance, expressing his approval of early operations among the best surroundings and with all antiseptic precautions. The incision should be in the median line; when the intestines are inflated and roll out of the opening, he advises pricking the most prominent loop to permit the escape of gas and secure the collapse of the gut. He would close the abdomen by the deep through and through suture in preference to the method of suturing each layer separately.

J. E. MEARS, M.D. (Philadelphia), would adopt the following order of treatment, (1) external manipulation, (2) internal examination, where it is possible to be made through exploration of the pelvic cavity, (3) aspiration and (4) laparotomy, the most serious of all and to be resorted to after the failure of all other methods. He deprecated rashness but approved of abdominal section in intestinal obstruction, and in gunshot wounds of the abdomen he thought there could be no question of its propriety. He believed that the condition of the peritoneum had much to do with the immunity of operative procedures, and that one which had been accustomed to the presence of a tumor would endure operation much better than a perfectly healthy one.

C. T. PARKES, M.D. (Chicago), believed that the length of the incision had but little influence on the result of the operation, although he had observed that, in the cases in which it became necessary to extend the incision above the umbilicus, convalescence was somewhat more prolonged. He also was opposed to the suturing the different abdominal layers, and closed the incision by suturing the lips of the wound *en masse*. A case which had been very instructive to him in connection with the danger of opening the abdomen was that of a wo-

man who had been hooked by a cow, the abdomen ripped open and the bowels caused to protrude; these were cleansed and returned, and recovery followed promptly, without even a localized peritonitis. He thought delay in cases of intestinal obstruction wrong and quoted cases in support of this view.

J. F. THOMPSON, M.D. (Washington, D. C.), reported two cases in which laparotomy had been performed for diagnostical purposes. In the first, the patient had been suffering for several years from a tumor, resembling an ovarian tumor in many respects, except that it had two sinuses leading from it and opening in the groins; the abdominal enlargement was as great as at the fifth or sixth month of gestation; following up one of the sinuses into the cavity of the abdomen, a large tumor presented, but the flow of pus could not be explained; the tumor being apparently embedded in the abdominal wall, it was thought best to close the wound without further operation; at the autopsy, five months later, the tumor was found to be an enlarged and dislocated spleen. The second case was for a tumor which, being found on opening the abdomen to be an extensive carcinoma, involving the mesentery, transverse colon and liver, was left undisturbed and the patient recovered readily from the operation. He disapproved of the simple continuous suture in closing the abdomen, believing that each layer should be sutured separately, so that the internal peritoneal layer may have united sufficiently to prevent the entrance of pus before suppuration shall have been established.

Further remarks were made by other speakers, cases being quoted in which an exploratory operation would have probably saved life, the trend of opinion being in favor of the more frequent application of the operation.—*Proc. Am. Surg. Assn.* 1886.

VI. A Successful Case of Laparotomy for Perityphlitic Abscess. By J. L. HOMANS, M.D.; (Boston, Mass.) A boy, æt. 11, had suffered from pain and tenderness in the right iliac region for five days; dulness was found on percussion. and the temperature and pulse rate were high and increasing. In pursuance of the policy of early interference an incision was made, about 2½ inches long, without previous aspiration over the most tender point, and the peritoneum

opened; healthy intestine presenting was pushed aside, and beneath it were found loops of intestine bound together by a recent plastic process, and by poking about with the finger an abscess was torn open, evacuating two ounces or more of foul pus. A double drainage tube was inserted and the wound closed, the patient making a prompt recovery.

Especial attention was called to the early period at which the operation was performed on the fifth day of the sickness and the second after being seen by a medical man.—*Boston Med. and Surg. Jour.* 1886. April 29.

VII. Perityphlitis. By H. B. SANDS, M.D., (New York). Quotes six cases of perityphlitis, wishing to emphasize the necessity of absolute rest in the treatment of this affection. The first was the case of a physician who was doing fairly well, but who, while the disease was in progress, was allowed to take several cathartic medicines, each of which only aggravated the trouble, and finally, after a copious passage produced by an enema, he fell into collapse and died, with no cause for the existing perforation of the appendix visible on autopsy. It was evident in this case that the difficulty had been confined within narrow limits for a while, and undoubtedly a better chance for recovery would have been afforded if the patient had been kept absolutely quiet and opium given instead of cathartics.

The second case was that of an old man who had been supposed to be suffering from strangulated hernia, but although a hernia existed, the sac was so flaccid that there could be no strangulation, and the case was in reality one of perityphlitis; the patient was allowed to get up and go down town, with the result of precipitating a peritonitis and death. Autopsy revealed perityphlitis with perforation of the vermiform appendix and an empty hernial sac on the right side. This case also emphasized the importance of rest and opium.

The third case was also of a physician, who had signs of intestinal obstruction during the progress of peritonitis; and the only reason for supposing the trouble to have begun in the appendix vermiformis was the existence of slight pain in the right inguinal region. Later, distension of the abdomen and elevation of temperature to 104° F. oc-

curred; rest, hot fomentations and opium brought the temperature down to 102° F., although the pulse still continued rapid; the speaker was called in at this time, but did not urge an operation, thinking it would offer but little chance of recovery. Death ensued and the autopsy showed the fatal result to have been due to universal peritonitis, originally caused by perforation of the vermiform appendix, the pus not being enclosed as is usual in abscesses of this kind. The only possible surgical success in this case would have been early laparotomy, if an early diagnosis had been possible.

The fourth case was a very stout young man, *æt.* 21, upon whom he operated on the fourteenth day. In this operation, for the first time in his experience, he accidentally cut the intestine, although pus had been withdrawn by the hypodermic syringe, before the incision was made. When he arrived at the tumor, all those present had the impression that a piece of intestine was being dealt with, and it seemed to the operator that there was a portion of the cæcum in the wound instead of the usual abscess cavity; he made a cut with the scissors, and the impression conveyed to his mind was that he was cutting intestine; from the opening came pus and air, but no feces; feces appeared, however, the next day, and on the second day in large quantities, continuing for about ten days, having ceased altogether at the end of two weeks. The patient recovered entirely in three weeks; the operator thought the hypodermic needle must have passed through both walls of the intestine before penetrating the abscess.

A fifth case was of a young lad, there being symptoms of peritonitis in connection with perityphlitis; the case progressed well for a week, when subnormal temperature, abdominal distension and other alarming symptoms appeared; an operation was performed and the abscess cavity found to contain pus and feces; the patient was convalescent when last seen.

The sixth case was a lad of 14, in whom the symptoms had existed for a week and where there seemed to be signs of perforation on the side of the peritoneum; there was marked tympanites and he could make out no circumscribed tumor; after debating whether to cut in the median line or at the side, he decided to make the incision in the latter locality. When the layers of the abdomen were cut down upon,

about a half an ounce of pus was seen to flow from a small opening and the abscess cavity was found to be very smooth; the abscess was doubtless in the cavity of the peritoneum and, as had been suspected, the case was one in which perforation had occurred toward the serous membrane and not amenable to the usual operation.

It having been remarked that the early recovery of the fourth case rendered it doubtful whether the intestine had really been wounded, Dr. Sands said it that was quite possible to have a simple wound of the intestine and also rapid recovery. A remarkable example of this was the case of a young man accidentally shot in the abdomen with a 38-calibre ball, entering the body on the right side of the median line close to the pubes. No fæces appeared on probing for the ball, which could not be found on an incision, extending as far as the spine of the ilium. It was noticed that there was some deep emphysema, which has recently been noted as a sign of perforation of the intestine; the external abdominal ring was somewhat patulous, but no more so than is often the case. On the third day a flow of fæces appeared, the source of which could not be ascertained, although the drainage tube was removed. Afterward, however, air and fæces came from the external abdominal ring, and the bullet, therefore, must have entered the abdomen through this natural opening. The patient recovered, showing that a temporary faecal fistula might sometimes be established.

It had been claimed that laparotomy could succeed in cases of perforation of the vermiform appendix and general peritonitis, but he believed that, with the latter condition, the operation offered no hope of saving life.—*Proceedings N. Y. Surg. Soc.* 1886. April 26.

VIII. Pelvic Abscess in the Male. By T. H. BURCHARD, M. D., (New York). Defining the lesion as a phlegmonous inflammation occurring in the superior portion of the pelvic cavity, below the cavity of the abdomen, from which it is separated by the pelvic reflections of the peritoneum, and above the muscular floor formed by the levator ani muscle, he calls attention to the fact that the bony lateral boundaries and the dense and almost impervious musculo-membranous floor render it possible for abscesses to originate in the pelvis and produce most acute constitutional disturbance and even very extensive local

disorganization without any distinguishing external symptoms. The burrowing of the pus may be very extensive, passing through the pelvic foramina and appearing externally under the gluteal muscles; penetrating the acetabulum and destroying the hip-joint, dissecting up the aponeurosis of the iliac muscles, producing necrosis of that bone and appearing upon its external surface; emerging from the pelvic cavity and traveling anteriorly along the course of the femoral vessels beneath Poupart's ligament and appearing on the anterior surface of the thigh; penetrating the hollow viscera and evacuating into the bladder, rectum or peritoneal cavity; in fact there is no direction which it may not take after having escaped from its bony confines. The clinical history varies according to the acuteness or latency of the attack, both the constitutional and local disturbances being the greater in the latter, with great pain and febrile phenomena, more or less abdominal distension, tympanites, vomiting, flexion of the thighs, difficult or impossible micturition, proctitis and tenesmus if the tumefaction projected into the rectum, and localized or general peritonitis, if the inflammation spread upwards. Abscesses formed thus acutely are more likely to evacuate themselves spontaneously in either the rectum or bladder, than those of a subacute or chronic character.

While difficult to specify a time, it is logical to suppose that suppuration occurs some considerable time before it makes itself manifest by external tumefaction, the delay being due to the difficulty the pus experiences in getting to the surface, because of the depth of the suppuration, rather than to the absence of pus. The constitutional evidences of internal suppuration are all along more or less pronounced and a carefully conducted examination at this stage may discover the location. Chronicity, however, seems to be the rule with non-traumatic cases in the male, which most frequently occur in the poorly nourished and cachectic in whom inflammatory processes are slow and suppuration tardy; a widely diffused inflammation may pervade the pelvic cellular tissue months before its final breaking down into pus. The diagnosis is often very baffling in such cases, owing to the inaccessibility of the parts and the many different tissues, organs, vessels and nerves affected. Clinically, it is important to distinguish between an inflammatory condition simply and the suppurative stage of the

same condition, the latter of which can not be recognized too early; and likewise between a pelvic cellulitis and general or localized peritonitis and between it and cystitis, proctitis and prostatitis. Surgically it is necessary to differentiate between abdominal, pelvic, ileo-pelvic and perineal abscess and abscess of the ischio-rectal fossa, as well as the exceptional accidents liable to be found here.

The treatment naturally resolves itself into treatment of the cellulitis before suppuration and after suppuration. In the former, rest, morphine, quinine, local refrigeration and local depletion by leeches to the perineum; in the latter, evacuation at the earliest possible moment. In illustration, five cases are related, two of which died of the disease, one of an intercurrent nephritis, one refused assistance and one was treated by an opening extending down five inches from the posterior superior spinous process of the ilium into the peritoneal cavity, the sinus opened and the cavity drained, with recovery.—*N. Y. Med. Rec.* 1886. April 24.

J. E. PILCHER (U. S. Army).

IX. On the Operative Treatment of Carcinoma of the Large Intestine. By Dr. B. RIEDEL (Aix-La-Chapelle). Gurlt's statistics of the Vienna hospitals show that of some 500 cases of carcinoma of the intestinal tract, the small and large intestines were the seat of disease in 109 cases whilst the rectum was affected in 399 cases, a proportion of about 1 to 4. Schramm collected in his work, which appeared in 1884, 34 cases of carcinoma of the large intestine, of which but a few were situated in the transverse or descending colon, by far the larger number being found in the cœcum or sigmoid flexure. During a period of four and a half years, the author has observed 14 cases of rectal carcinoma, and 9 of carcinoma of the large intestine. Of the latter 3 were situated in the cœcum, one in the descending colon and 5 in the sigmoid flexure. Only 5 of the 14 cases of rectal carcinoma were operative. Of these one died in consequence of the operation, whilst 4 are living, 3 without relapse, the other, operated two years ago, having recently showed signs of return of the disease. Of the 3 cases without relapse, 2 were operated in 1883, and were very simple and easy ones to operate. The oldest and most difficult case (woman,

73 years of age,) was operated in 1881. The carcinoma was situated so high up that the author, after opening Douglas' cul-de-sac, was obliged to pull the lower part of the sigmoid flexure downwards and divide it transversely between two elastic ligatures, the gut being excised from above downwards. All glands in the cavity of the os sacrum were removed. Patient recovered and is at present in good health. Of the 9 cases of carcinoma of the larger intestine, 2 would not submit to an operation and died shortly afterwards. In the third case (man, æt. 65, with carcinoma cœci) an exploratory incision showed that the disease had progressed too far to admit of a radical operation. An artificial anus was therefore made above the cœcum, but this condition becoming unbearable to the patient, the abdomen was closed and the patient died two weeks later from perforation of the carcinoma. The fourth and fifth cases (man, æt. 65, woman æt. 70, both with carcinoma of the sigmoid flexure) had severe symptoms of ileus on admission. In both cases an artificial anus was made, but too late, death taking place 24 and 48 hours respectively from peritonitis, caused by minute perforations above the small ring-like carcinoma. Case 6 (woman, 45 years of age) was one of carcinoma of the sigmoid flexure, with strong adhesions to the pelvis. When admitted severe symptoms of ileus were present, tympanites, vomiting, etc. The colon was opened in the left inguinal region. After the contents of the bowels had been emptied, it was found that the tumor was absolutely non-operable, and an artificial anus was therefore made. Patient left the hospital in good condition. Case 7. Woman, æt. 54. Carcinoma of the sigmoid flexure causing great stenosis. The gut was resected for 6 ctm. above and below the tumor. Both ends were attached by sutures in the abdominal wound, the author intending to unite them later, when the bowels had emptied themselves. The patient, however, was well satisfied with her condition and would not consent to undergo another operation. She recovered and is at present perfectly well, no signs of relapse being observed.

Riedel's eighth case is a highly interesting one. The patient, a gentleman, 51 years of age, had been annoyed with intestinal disturbances for about one year, having noticed the tumor six months before. When first seen by the author, a lump the size of a hen's egg was distinctly

felt in the right inguinal region. Immediate operation was urged by the author, the patient, however, acting on the advice of Michaux (who considered syphilis to be the cause of the tumor) went to Aix-Lachapelle for treatment. He continued to grow worse, and consulted the author again in August, 1885, being then in an emaciated and very forlorn condition, with decided icterus. The tumor was now found to have increased very much in size, having several distinct superficial prominences, which were thought to be infiltrated glands. No tympanites or pain present. Operation was not advised, but at the urgent request of the patient, an exploratory incision was undertaken. No infiltration glands were found, and a radical operation was at once determined on. The carcinoma was situated in the cœcum. On account of adhesions the whole ascending and a portion of the transverse colon had to be removed, the ileum being divided. The mesenterium had been necessarily subjected to considerable maltreatment during the operation, on account of which it was held to be advisable to suture the ends of the severed intestine in the abdominal wound. This was fortunate as large portions of the mesenterium became necrotic, and abscesses found along the edges of the sutured gut, by means of which the necrotic portions of mesentery were expelled. Patient did well; lost his icterus, and his appetite returned. Two months later the intestine was united with sutures of fine silk, after about 6 ctm. had been removed from both ends. Eight days later first stool per anum took place. In six weeks patient discharged cured. No signs of relapse up to the present time.

Case 9. Woman, æt. 50, with large non-operable carcinoma of the sigmoid flexure.

A glance at these cases will show that disturbances in defecation (alternating diarrhoea and constipation) occur in all cases of carcinoma of the larger intestine. The symptoms of ileus do not appear so often in these as in the carcinoma of the sigmoid flexure, the fæces being quite fluid and soft, even as far down as the end of the ileum, so that they very easily pass through a considerably narrowed lumen. In stenosis of the sigmoid flexure the fæces collect slowly until large quantities are present, when vomiting, etc. appears, and then perforation above the strictured part. Although the real state of the pa-

tient is not always recognized, a diagnosis should not be difficult. To this end injections of water into the rectum may be advantageously used. If not more than 200 grammes enter, there is certainly a stenosis present. In carcinoma of the cœcum there is often, perhaps, a tendency to mistake the tumor (movable in all directions) for a benignant growth, lying laterally to the intestine, or in the mesentery, inasmuch as disturbances of the intestinal functions are often so very slight at the beginning. During the further progress of the disease the usual symptoms of stenosis of course will appear. In most cases the ages of the patients ranged from 40 to 60 years, but this form of carcinoma has been frequently observed in persons of 20 to 40 years of age. Radical removal of the new growth has been, according to Schramm's statistics, (to which one case of Schede must be added), performed in 22 cases, in 13 of which the result was unfavorable, recovery taking place in 9. Riedel thinks that the operation will never attain any very great results, as the patients present themselves too late usually.

Regarding the technique of the operation, the author cautions against uniting the ends of the severed gut, if tympanites be present, preterring the artificial anus. Union takes place easily and quickly if large portions of the serosa are brought in contact with each other. R. used very fine rounded curved needles and correspondingly fine silk. He has never had a case of gangrene of the edges, nor failed in a single case to get union. On uniting the gut later on, those portions which have been secured in the abdominal wound, should be removed. The intestine may be divided from the mesentery for a centimeter, without risk, care being taken to close the slit in the latter. The first row of sutures should unite the muscularis and a small strip of the serosa, whilst a second row should bring the surfaces of the serosa together, for the space of $\frac{3}{4}$ ctm. The intestines should be thoroughly emptied before the operation, to prevent soiling of the same with fecal matter. The author advises delay in uniting the intestine ends, owing to the impossibility in so many cases, particularly in cases of incarcerated hernia, of determining the real state of the gut at once. Resection and suturing ought not to be undertaken, he says, until the intestines are thoroughly emptied of their contents, which should take place

in the course of 24 hours.—*Deut. Med. Woch.* No. 15 and 16. April 15 and 22. 1886.

C. J. COLLES (New York).

X. Case of Cholecystotomy. By Dr. A. LANDERER (Leipsic). The wife of a shoemaker, æt. 35, suffered for about eight months from severe pains in the region of the liver. No stones were passed; no jaundice occurred; the pains were intermittent in character. A tumor of the size of a child's head, with irregular surface and hard to the feel, could be made out in conjunction with the liver and participating in its movements. The lower portion gave a tympanitic note, and the tumor, slightly movable under the integument, was painful on pressure, especially near its upper part. Urine and pelvic organs normal.

Incision parallel to the median line over the tumor revealed the tumor adherent to the transverse colon and covered by hepatic tissue, and connected with the mesocolon behind. Tapping produced mucus and pus, and verified the diagnosis of empyema of the gall-bladder.

As extirpation was impossible, the author stitched the liver to the abdominal wall around the incision by means of five silk sutures, and applied sublimate and iodoform dressings. After six days during which no febrile reaction occurred, a large trocar was inserted into the gall-bladder through $2\frac{1}{2}$ ctm. of liver tissue and drainage established. Subsequently the opening was enlarged by Pacquélin's cautery.

The patient made a good recovery, the pains were effectually cured, and only a fistula remained, through which only a few drops of ropy mucus were daily discharged.—*Münchener Med. Wochenschrift*, 1886. No. 17.

XI. Enterotomy for Ileus. By Dr. F. FUHR (Giessen), and Dr. F. WESENER (Freiburg, Baden). In reviewing the various opinions hitherto expressed of the relative value of enterotomy and laparotomy for the relief of ileus, the authors compare the two methods together critically, and decide in favor of enterotomy.

One case is given. A widow, æt. 47, had worn a pessary which had pressed the sigmoid flexure of the colon against the sacral bone and here caused local circular inflammation, which subsequently led to a

stricture of the gut. Ileus set in and the patient's life was saved by enterotomy performed in the left inguinal region, the transverse colon being stitched to the wound. The *fæces*, however, could pass the artificial anus in part; and as they could not pass the strictured gut, in the course of time the intestine between the artificial anus (in the transverse colon) and the stricture in the sigmoid flexure became enormously distended and pressed upon the abdominal organs to such an extent that death ensued, under the symptoms of constipation, ascites, icterus, vomiting, singultus, dyspnoea and oedema of the lungs—about two years after the operation. An ovarian tumor (cysto-adenoma) was also found at the post-mortem, which had not materially influenced the case.

In speaking of the merits of enterotomy as compared to abdominal section, the authors point out how the protrusion of the greatly extended intestines through a laparotomy wound prevent their replacement.

Puncturing the gut with a fine needle they consider too dangerous, for the reason that the internal existing pressure cannot be sufficiently accurately estimated, which might be considerable enough to force out the contents of the intestine into the abdominal cavity after reposition. They concede, however, that the antiseptic method renders laparotomy a less dangerous proceeding than it formerly was. The personal inconvenience attending artificial anus is not at all great, and its existence is not even suspected by those ignorant of it. The fact that statistics show an equal amount of mortality after both operations is accounted for on the ground that the laparotomies attended by fatal results are rarely published.

As to the objection sometimes urged against enterotomy, that a portion of the stenosed gut itself might be opened, and thus no relief be obtained, the authors believe that the abnormal gut may be recognized by the fact that it contains transudated blood. Nor is there much danger of opening a loop of intestine too near the duodenum, if the operation of enterotomy be done in the inguinal region.

The authors explain the fact that enterotomy frequently leads to radical cure of ileus, by pointing out how the operation affords more

space in the abdominal cavity, so that the invagination and axial torsion of the gut may be redressed.

The danger exemplified by the case given, however, still remains an objection to enterotomy. Accumulation of fæces between the opening and the occluded portion of the gut may cause a fatal issue.—*Deutsch. Zeitsch. f. Chir.* Bd. 23. Hft. 3, 4. March. 1886.

XII. A Contribution to the Treatment of Gangrenous Herniæ and of Artificial Anus. By Dr. CARL KOCH (Nuremberg). The author gives two cases of gangrenous hernia, and adds another, still under treatment, at the end of the paper. He then discusses the subject, advocating the formation of artificial anus for all gangrenous cases of hernia.

1. Decrepit woman, æt. 60. Femoral hernia, incarcerated for two days; gangrene of sac and of intestine, and of the cellular tissue. Gut stitched to the wound. On third day gangrenous portions sloughed off. No fever; no peritonitis, yet death ensued during granulation period in consequence of senile marasmus.

2. Woman 45 years of age. Incarceration of hernia for five days. The intestine showed a gangrenous spot $2\frac{1}{2}$ ctm. in diameter. Sutures applied to fix the gut in the wound. Sloughing ensued in eight days to the extent of two-thirds of the circumference, much more than was anticipated. No peritoneal or febrile reaction. Some eczema due to the sublimate dressings. After two months Dupuyten's clamp applied, three times in all. After five months operation; intestine freed from adhesions to skin and sac, pulled out, and sutured after Czerny's method, with forty sutures. Gut replaced and wound closed with sutures.

Drainage; sublimate dressings. Reactionary temperature 38° C. Good recovery. Patient wears a truss, but hernia apparently again forming.

Although much is to be said in favor of resection of gangrenous portions of incarcerated intestines with suture of the ends and replacement, the author is of opinion that artificial anus formation with subsequent secondary operation is safer as regards the life of the patient. The health of a patient having suffered for some time from incarcerated hernia,

when pain, vomiting, local inflammation, fever and albuminuria have continued for a time, is too bad to admit of a long narcosis, and collapse and shock are apt to be the consequence.

The danger of inducing septic peritonitis by replacing the inflamed tissues of the intestine into the abdomen is very great. The local septic inflammation occurring after gangrene of the hernia may thus be transmitted to peritoneum.

Another danger threatening peritonitis is the direct entrance of fecal matter into the abdominal cavity through the sutured parts. The suture, being performed upon abnormal gut, may at any time give away. Nor can the extent of the sloughing process be accurately estimated beforehand in intestines threatened with gangrene, especially if any portion of the mesentery has had to be removed. As for Schede's proposal to suture the gut and leave it outside of the abdominal cavity the author believes this method to be no improvement on the artificial anus. He therefore concludes that only normal gut should be sutured and returned to the abdominal cavity; but gangrenous intestines should be stitched to the wound, an artificial anus formed, and subsequently a secondary operation performed.

This may either consist of Dupuytren's original procedure, which, however, is tedious and uncertain; or it may consist in resection of the intestine, with suture and replacement, and closure of the abdominal cavity—a more preferable, but somewhat unsafe method; or, lastly, Dupuytren's clamp may be first employed to destroy the septum in the artificial anus, and then the gut may be pulled out, sutured and replaced, the wound being finally likewise sutured. This method is easy of execution; the suture need only be applied to the perforation, a longitudinal suture taking the place of the more difficult and tedious circular one. Nor need the mesentery be touched in this operation, as in resection of the gut.

This proceeding is, therefore, the one which the author recommends for all cases of gangrenous hernia. He adds some more special instructions concerning the technical details of the operation. —*Deutsch. Zeitschr. f. Chir.* Bd. 23. Hft. 3, 4. March. 1886.

EXTREMITIES.

I. Case of Total Extirpation of Scapula with Excision of the Head of the Humerus and the Acromial Portion of the Clavicle for Caries, with Final Recovery with Good Utility of Arm. By Dr. SCHULZ, of Sonnenburg in Neumark. A farm-hand, æt. 16, was admitted to the Johanniter Hospital in Sonnenburg, August 11, 1884, for pain redness and swelling of the shoulder joint. He had gone to sleep July, 1884, and, on awakening, could not move his arm. Treatment with tr. iodine. After one week incision liberating pus. Fistulæ remained below the spine of scapula and in the internal aspect of the upper third of arm. Movement was greatly impaired. Pressure caused pain; temperature 40° C.; pulse feeble; occasional fainting spells. Treatment—tonic, eggs, wine, quinine, phosphates; repeated incision and drainage; arm maintained in fixed position.

Subsequently improvement set in. But incision of an abscess above the spine of the scapula became necessary; the focus was scraped out with the sharp spoon. Roughened bone could be felt over the whole of the scapula with probes, and joint-affection was established.

September 1. Arsenic given, with general improvement; subsidence of suppuration; increase of appetite. Soon, however, another abscess appeared near the acromion demanding incision.

December 12. Extirpation of scapula; incision from spine to angle; subscapular artery tied; head of humerus exsected, as well as acromial end of clavicle, both being carious. Sublimate dressings; reactionary temperature 38.0° ; subsequent reconvalescence.

February 10. Patient up and about; can move fingers and forearm, and rotate and swing upper arm, but cannot abduct it.

May 6. Dismissed with a support; can write; was seen after five months again, still improving.

Some remarks are added and brief mention of twelve other cases is made.—*Deutsch. Zeitschr. f. Chir.* Vol. 23. Hft. 3 and 4. Mar. 1886.

GENITO-URINARY ORGANS.

I. On Extirpation of the Kidney. By Prof. ERNST VON BERGMANN (Berlin). A paper was read at an anniversary meeting of the Berlin Medical Society, containing, besides references to the statistical contributions to the subject by Czerny, Balz and Gross, and general remarks, *five new cases*, and six other ones which the author had mentioned in a previous paper read at the Magdeburg Convention of Scientists in 1885, but which have not as yet been published, making eleven in all.

The unfavorable prognosis of operations for malignant tumors of the kidney may yet be improved, in the opinion of the author, by advances in the diagnosis and technical execution of the operation. Malignant tumors greatly vary in their course, some growing rapidly, others very slowly. Some present early metastases, others none at all. In children a very gradual growth is the rule, leading to intermittent hæmaturia, marasm and weakening diarrhoea, but other cases in which no renal symptoms occur are observed as well. The periods of occurrence of malignant disease, before the fifth and after the fiftieth year, also tend to render the diagnosis easier. The movability of the tumor does not, however, appear constant enough to prove valuable in diagnosis, nor is any constancy to be found in the adhesions of the tumor to surrounding organs. As to technique the author advocates lumbar incision for the removal of malignant neoplasms, and illustrates the dangers of anterior peritoneal section by two unsuccessful cases. If the tumor is too large to be readily removed an oblique lumbar section is to be made, without incising the peritoneum. In this way he successfully operated in one case for malignant disease of the kidney.

Well developed abscess of the kidney is to be treated solely with the knife. The diagnosis can be made from the presence of a lumbar tumor, and that containing pus. The author was able to limit the diagnosis to one kidney in five cases.

Two cases of extirpation of the kidney for pyelo-nephritis are given, one of which ended fatally. A tumor was present and evening elevations of temperature were observed in both cases. The urine was com

paratively clear owing to the admixture of healthy urine secreted from the healthy kidney. Both patients were females and attributed their troubles to pregnancy. In one of these cases a stone in the renal pelvis caused the suppuration. In two further cases the cause of suppuration could not be ascertained. These both terminated favorably, as did also another (fifth) case, in which a kidney was extirpated for perinephritic abscess of large proportions. These kidneys did not bleed when their substance was injured, an observation which materially facilitates similar operative procedures. In certain cases where the pus is concentrated in one point simple nephrotomy may be preferable to nephrectomy. The former should be preferred if the diagnosis is uncertain, and if it is uncertain whether the other kidney is diseased.

One case, in which the author removed the kidney for suppurative processes, ended fatally, and the post-mortem showed that the other kidney was similarly affected. An analogous case where simple nephrotomy was successfully performed, is promised shortly.

In no case did any infection of the wound occur from the incision into the suppurating mass.

Lastly a case of successful operation for hydronephrosis is given, in which the author removed the kidney through a lumbar incision.

The paper abounds in interesting statements and hints pertaining to all the questions of the subject, including treatment, and which cannot here be more particularly considered.—*Arbeiten aus der chir. Klinik der Königl. Univ. Berlin.* 1. Th. II.

W. W. VAN ARSDALE (New York).

II. A Rapid Evacuator for Litholapaxy. By E. ANDREWS, M.D. (Chicago). In the evacuators of Bigelow and Thompson the rubber bulb makes suction only for an instant; when it reaches the limit of its expansion, it suddenly stops the outward current from the bladder and arrests in transit a row of fragments of stone, lying along the whole length of the tube, which at the next compression of the bulb are all thrown back into the bladder; thus a large part of the fragments are pumped out and in many scores of times before they finally escape, prolonging the evacuating stage of the operation tediously

and irritating the inflamed bladder by the repeated forced expansions and by the pelting of the sharp fragments continually shot backward into it. To remedy these defects, the author devised an instrument consisting of a double chambered evacuating tube of which the straight part consists of a cylindrical tube of very thin metal with an outside diameter of $8\frac{1}{2}$ millimetres, and terminating in a rounded tip having a fenestrum like Bigelow's, while the outer end is bent down, terminating in a piece of rubber tube, 9 centimetres long and 1 centimetre inside diameter. Along the under side of the straight portion of this overflow tube is soldered a thin concave semi-cylinder, making an inflow chamber, which is wrapped half around the outflow tube, giving the cross section an oval shape with an outside circumference of about $31\frac{1}{2}$ millimetres, the diameter of the outflow chamber, being $8\frac{1}{2}$ millimetres, while that of the inflow chamber, is 2 millimetres. The inflow channel terminates in forty perforations, each 1 millimetre in diameter. The outer end of the inflow tube projects in a straight line beyond the curve of the outflow and terminates in a cylinder of 10 millimetres, outside diameter, and having a stopcock of the same calibre. To the outer end of this tube is attached a rubber tubing with an inside diameter of not less than one centimetre and a length of about two yards, to the farther end of which is attached a strainer through which a stream of water is to be syphoned.

To use it, the evacuator should be introduced into the bladder with the fenestrum toward the patient's head and held at a steep slope, so that the tip presses the bottom of the bladder gently down toward the rectum, making a funnel-shaped depression into which the fragments tend to fall; now turning the stopcock, a warm $1\frac{1}{2}$ % solution of carbolyzed water is admitted through the inflow division and enters the bladder by the small perforations, sweeping the fragments rapidly around into the fenestrum of the outflow tube and thence outward into a basin set between the patient's thighs; the current being continuous and always in one direction, the evacuation is accomplished with remarkable rapidity. The writer refers to a case where the fragments of a hard oxalate of lime calculus, over one inch in diameter, were almost

completely swept out in *ten seconds*, where, perhaps, twenty-five minutes of churning to-and-fro with Bigelow's evacuator would scarcely have accomplished the same result, and sixty seconds more of the current sufficed to remove the last particle remaining. The difficulty caused by fragments arching over the fenestrum of the evacuator and obstructing the outflow, he overcomes, when the scantiness of the stream shows obstruction, by compressing the end of the short rubber out-flow pipe between the thumb and finger and with the thumb and finger of the other hand suddenly compressing the tube just above; this forces a short but strong pulsation back into the bladder and instantly dislodges the obstructing fragments.—*Jour. Am. Med. Assn.* 1886. June 5.

III. Nephrectomy on a Patient Twenty-three Months Old. By R. PARK, M.D., (Buffalo, N. Y.). In the second winter of a child, hitherto apparently healthy, an enlargement appeared on the right side of the abdomen, which steadily increased in size; palpation revealed a firm, resisting tumor about the size of a foetal head at term, the aspirator drew off a brownish, odorless fluid, examination of which gave negative results. The tumor continuing to increase decidedly in size, after the lapse of a few weeks, the tumor being too large for removal by lumbar section, and incision was made in the right linea semilunaris; slight adhesions were found, but the peritoneum, covering the growth, was incised and the tumor shelled out without much difficulty, proving to be, as had been previously diagnosed, a fibro-cystic tumor of the right kidney, the cystic element predominating, and weighing, immediately after its removal, about four pounds. The pedicle was tied and dropped into the cavity, and the patient proceeded to a rapid recovery. A search into the literature of the subject seems to show the patient to be the youngest to have survived the operation.—*Proceedings Am. Surg. Assn.* 1886.

IV. Case of Hydrocele of a Hernial Sac. By R. F. WEIR, M.D., (New York). A woman, æt. 24, had worn a truss for hernia for ten years, and presented at the location of the rupture a constant tumor which was dull on percussion and without impulse on coughing; on grasping it with the hand, it did not give that peculiar ir-

regular sensation, which an omental mass would give, and yet on pressure the bulging was just as if coils of intestine were underneath. In doubt as to the exact condition, but thinking that it might be a fatty tumor, it was cut down upon, looking more and more like coils of intestine, until the sac was arrived at, when clear fluid escaped through a minute incision. The opening was closed to preserve the cyst entire, if possible, and it was finally dissected out entire except at its neck, which ran up to and through the femoral ring; on seizing this neck and applying a ligature and then dividing it, it was found to be a femoral hernial sac, which had been so shut off by the persistent use of a snug fitting truss that the sac had undergone conversion into a cyst; it contained some five or six ounces of fluid.—*Proceedings N. Y. Surg. Soc.* 1886. May 10.

V. The Treatment of Varicocele. By R. F. WEIR, M.D., (New York). The writer concludes as the result of his experience of a number of the methods devised for the treatment of varicocele; (1) that for small varicoceles there is nothing better than a single (or double) subcutaneous ligature; (2) for medium sized varicocele or for cases declining a more heroic operation, excision, in careful hands, is to be advised; (3) for larger varicoceles, for relapsed cases and for those not very large but with a much elongated scrotum, ablation of the scrotum with ligature of the veins is preferable.—*N. Y. Med. Jour.* 1886. March 20.

J. E. PILCHER, (U. S. Army).

WOUNDS—INJURIES—ACCIDENTS.

I. Stunning and Burn by an Electric Lamp. Prof GEO. BUCHANAN (Glasgow). Injuries from electric lamps are becoming not unfrequent. In most of the cases related, death has been instantaneous. In a case reported on January 22, as occurring at Liverpool, the man was stunned and remained unconscious for a time and on recovery was found to be quite blind.

A workman, æt. 44, was engaged on a crane when a "Brush" was by some mischance lowered into contact with the chain of the crane. Instantly the man was "doubled up," but his hands were compelled to

spasmodically grasp the chain so that he did not fall. He remained in this position for four minutes until the lamp and chain were separated. He then dropped down stunned. He recovered consciousness in an hour. There was a slight vesication on the hand where it grasped the chain, and at the part of the sole of the foot, through which the current passed into the ground, two square inches of skin were completely charred, as was also the neighboring part of the stocking.

The general symptoms (which soon passed off) were a slight amount of general shock, a feeling of heat in the abdomen and chest, and dimness of vision.

Sir Wm. Thomson suggests that if a bystander had taken the man by the clothes and drawn his feet from contact with the ground, or had thrust a bit of dry clothing under his feet, the contact would have been broken and the hand relieved from the chain.

C. B. KEETLEY (London).

BONES, JOINTS, ORTHOPÆDIC.

I. On Cases of Sudden Death Resulting from Venous Thrombosis and Embolism after Fractures of Bones. By Prof. P. BRUNS (Tübingen). The author gives one case of his own and a tabular synopsis of thirty-five extant cases. Analysis of these shows that the fractures occurred most frequently in the lower extremity, and in persons of from 40 to 60 years of age. The immediate cause of thrombosis of the veins consists in compression or injury of the veins at the seat of fracture; and some predisposition is usually present on the part of the patient, such as varicosities or circulatory impairment. Embolism may occur at any time between the fourth and seventy-second day after the fracture, and death may result immediately, from asphyxia or syncope, or after a longer period of time from infarction of the lung, or, finally, recovery may take place.

II. On the Behavior of the Bodily Temperature in Subcutaneous Fractures. By Dr. ERNST MUELLER, first assistant surgeon at the Tübingen Surg. Clinic. Rise of bodily temperature after simple fractures of bones was formerly believed to be of rare occurrence; but of late repeated exact measurements have led to the

opinion that high temperatures after fractures were a very frequent symptom.

In the present paper the author has considered 359 cases gathered from his own clinic, and from those of Stuttgart, Halle, London, (Univers. Coll. Hosp.) and from a report by Stickler (New York), and concludes that a rise of temperature is found in subcutaneous fractures in over 85 per cent. of the cases, and is, therefore, the rule.

The author's own cases are tabulated, and present temperatures ranging from 38.0° to 40.0° C. The highest rise was observed on the first and second evening after the accident. In some cases the fever lasted as long as thirteen days. Transportation after the accident did not appear to increase the temperatures. Generally speaking, the temperatures increased in direct proportion to the quantity of extravasated blood; but this ratio did not hold good in all cases.

The Stuttgart cases, which are also tabulated, show lesser elevations of temperature throughout than the Tübingen ones, a curious and unexplainable fact.

The author ventures no explanation of the cause of fever after fractures.—*Beiträge zur klin. Chirurg. Mittheil. aus der chir. Klinik zu Tübingen.* II. Bd. 1. Hft. I.

III. Fracture of the Ulna in Its Upper Third Combined With Dislocation of the Head of the Radius. By Dr. HANS DOERFLER (Nürnberg). The rarity of this injury and its limited literature has led the author to make it a subject of special study, more particularly since it is one of great practical importance. He gives four cases, some of which were observed by himself.

The first case is that of a man, 66 years of age, who, 40 years previously, was kicked by a horse, and sustained a compound fracture of the ulna in its upper third. The radius was luxated. No apposition of the fragments was attempted at the time, and no splints applied. The bones, in consequence, did not unite, and paralysis of the extensor muscles of the fingers resulted, due to a lesion of the musculospiral nerve. Arthritis deformans subsequently set in, and the forearm became entirely useless.

The second case, which was seen seven years after the accident,

presented a compound fracture of the ulna combined with dislocation of the radius and subluxation of the styloid process of the ulna, in consequence of direct violence, caused by a fall down stairs.

The third case, that of a child *æt.* 3 $\frac{1}{2}$ years, was one of fracture of the ulna simultaneous with luxation of the capitulum of the radius, sustained by a fall from a rocking-horse. The fracture alone was diagnosed at first, but seven days later the consulting surgeon discovered the dislocation. Complete recovery resulted.

The last case was one of the same injury acquired by a fall on the stairs. The fracture is supposed to have been caused by direct violence in consequence of the blow against the edge of the step, and the luxation further induced by a fall on the outstretched palm. The fragments formed an angle with the apex pointing backwards.

In discussing the mechanism of the injury the author concludes from the study of 19 cases, that direct violence alone less frequently occasions it, than combined violence, as exercised by a fall, the proportion being 5 to 11.

The greater number of cases occurred between the ages of 3 and 15, all others after the 35th year.

The question in what causative relation the two injuries stand to each other, is next considered. Grénier's assertion that the two injuries could not be simultaneously produced by means of any applied violence, is disproved by the author, who experimented upon ten cadavers. After chiseling partly through the ulna, he could easily fracture it, and by continuing the pressure, could occasion luxation of the radius.

He therefore believes that both injuries occur simultaneously, but that the fracture is primary and the dislocation of the radius secondary. Further experiments were performed to prove this.

Luxation of the radius proved very difficult to effect, but when present, application of further violence entirely failed to fracture the ulna, but produced typical fracture of the radius in its lower third. After partial incision of the ulna, however, direct violence easily effected the desired injury, luxating the capitulum radii forward and outward, if applied from behind and laterally.

The post-mortem condition of the parts is accurately described in these cases of artificial production of the injury.

The fragment of the ulna is not instrumental in causing the dislocation, in the author's opinion, but the radius-head may be displaced either by the continuation of the same direct violence which caused the fracture, or, by indirect violence, as by pressure upon the extended hand. The first of these modes is illustrated when the patient has been kicked, run over, hit by a stick, shot, or has fallen against some hard object; the latter, when he has first fallen against some hard body and subsequently fallen on his extended hand—as when falling down stairs.

Luxation of the radius cannot occur if the ulna be fractured below its upper third.

These conclusions are drawn from further experiments on the cadaver.

The *symptoms* of the injury are given as follows: Inspection reveals an angle outlined by the contour of the soft parts of the dorsal aspect of the fore-arm. The elbow-joint shows a well-marked bulging either towards the front, or laterally and anteriorly or posteriorly combined. This prominence, caused by the capitulum radii, moves when pronation and supination are performed. The circumference of the injured joint is increased from $2\frac{1}{2}$ to 4 cm.

On the posterior aspect three points can be made out, with the help of which a triangle may be constructed, having as its apex, the point of fracture of the ulna, and, as its base, a line drawn from the olecranon to the capitulum radii. This line passes directly over the external condyle of the humerus, in its middle. The injured arm appears shortened to the extent of $1\frac{1}{2}$ cm. The dislocation of the fragments depends upon the direction of the violence; the lower fragment remaining parallel to the radius in all cases, the upper one varying in position. The fore-arm is generally found half flexed, and half pronated. The elbow is frequently much swollen. Crepitation is always present at the point of fracture. Flexion is interfered with, but extension is possible; supination is somewhat impeded. The ulna alone is shortened about 3 cm.

Complications of the injury are sometimes present and consist in subluxation of the styloid process of the ulna, paralysis of the musculospiral nerve—a frequent source of danger—compound fracture, or injury to the soft tissue, and fractures of the epicondyles or condyles of the humerus, the latter being of very rare occurrence.

The prognosis is quite favorable if the treatment is begun at once, or even within the first six weeks. After two months there is less hope of success on account of the capsular degeneration; a new capsule is soon formed wherever the head of the radius remains, so that function may, in a measure, return, if the fragments of the ulna unite. If the latter does not occur, the use of the hand is entirely lost. Arthritis deformans may occur in later years as a result of the injury. The prognosis of paralysis is unfavorable.

As regards treatment, it is of great importance to bear in mind the possibility of an existence of a luxation of the radius in all cases of ulnar fracture. After replacing the capitulum of the radius with the help of extension and direct pressure from below, the arm is to be fixed in a half-supinated position and flexed at an acute angle at the elbow (so as to eliminate the action of the biceps) by means of a water-glass or starch bandage, to be left on for four or six weeks. The position of half-supination is maintained in order to prevent the new-forming callosus from again occasioning a displacement.

In old cases where replacement is impossible, resection of the capitulum radii is indicated, Osteopalinclasis of the ulna may become necessary in some cases. Compound fractures are to be antiseptically treated.—*Deut. Zeitschr. f. Chirurg.* Bd. 23. H. 3 and 4. March 10. 1886.

IV Two Cases of Lipoma Arborescens Genu, Complicated with Recent Synovial Tuberculosis. A contribution to the knowledge of tubercularisation of processes originally of a non-tuberculous character. By Dr. GEORG SCHMOLCK (Halle). Lipoma of the knee-joint being rare, S. refers to one such case published by Joh. Muller and gives abstracts of six other cases of simple lipoma genu. He then describes two cases of arborescent lipoma of the knee observed by him in Prof. Volkmann's clinic. Both cases represent simultaneous

lipomatous degeneration of all the normal villous excrescences of the synovial membrane of the joint, a condition for which the author suggests the name "liopmasia of the synovial villi." This is what the name lipoma arborescens signifies. In the six other cases just referred to, simple lipomata of the joint were present, and the author differentiates between the two forms as regards their origin, believing with Koenig that the simple lipomata are of subserous origin and bear analogy to the peritoneal subserous lipomata.

Especial interest attaches to both cases for the reason that evidences of recent tuberculous affection of the synovial membrane were present in each case. The author quotes Riedel as asserting that tubercular synovial processes frequently appear secondarily subsequent to fibrinous synovitis with melon-seed bodies (*corpora orzyoidea*), and argues analogically that secondary tuberculous affections may also occur after lipomatous degeneration.

The first case is that of a theological student, æt. 23, who 12 years previously had suffered from an acute inflammation of the knee-joint due to contusion and cold, and since then had had recurrences two or three times. The diagnosis of fungous (tubercular) inflammation of the joint was made. Incision, however, revealed four packages of polypous excrescences, which were excised, and also a recent synovial tuberculosis. Microscopic examination showed the polypi to be lipomata and demonstrated miliary tubercles, giant cells and specific tubercle bacilli.

The second case was a farmer, æt. 52, who had had serous effusion into the knee-joint for five years. Villous growths were found in the joint and were removed. Recent tuberculous infection was likewise revealed.—*Deutsch. Zeitschr. f. Clin.* Vol. 23. Nos. 3 and 4. March. 1886.

V. The Treatment of Scoliosis by Massage. By Dr. A. LANDERER (Leipsic). Eighteen cases of lateral curvature of the spine not due to bone-disease and occurring in youthful individuals of ages ranging between 2½ and 21 years, were treated by the author with massage, and with such excellent results that he recommends this mode of treatment in all similar cases.

The cases are given in short and represent both slighter deformities of the spinal column and severer scoliotic affections; many of them had already been in the treatment of renowned specialists for a shorter or longer period, and had had the advantages of the best orthopedic appliances and of methodical exercise; in some cases the trouble had existed for as many as nine years. The results almost constantly far surpassed the expectations of the author.

Starting with the proposition heretofore ascertained, that scoliosis is deformity caused by the inability of the spine to support so great a weight as it is compelled to carry, and confining his subject to those forms of scoliosis, either unilateral or serpentine, which are known as habitual curvatures, as differing from static, traumatic, and other forms, the author proceeds to show that it is the muscular system alone which is at fault, and to the inefficiency of which the deformity is owing.

For this purpose he first examines the physiological or normal action of the dorsal muscles, and shows how the normal s-shaped configuration of the spinal column results out of the simple arc of the spine of the infant, by the action of the cervical and lumbar sets of muscles and the weight of the thorax. Thus muscular individuals present more pronounced physiological curves of the spinal column than weakly ones; they appear to stand straighter.

Other sets of dorsal muscles have the function of preventing the spinal column from leaning laterally. As a mast of a ship is held in its upright position by the shrouds, the spinal column, not unlike a mast composed of many segments, is normally retained perpendicular by means of the dorsal muscles while other shorter dorsal muscles perform the function of holding the segments together. In scoliotic individuals—so the author maintains—the muscles of the back are insufficient to perform their function. This is made evident by the ease with which one can aggravate scoliosis in certain individuals by pressure upon the head. Moreover, scoliosis is more marked and more difficult to cure in individuals whose antero-posterior curvature of the spine is not well developed. Again, atrophy and fatty degeneration of the dorsal muscles is a frequent post-mortem symptom of scoliosis. The habit of leaning to one side and differ-

ences in weights supported by either shoulder are only of importance in deciding the direction of the curvatures, but not, as has been believed, in actually causing the curvatures. Secondary trophic changes in the osseous elements finally render such habitual curvature fixed, whereas in cases of static scoliosis (coxitis, etc.) the curvatures remain flexible on account of the better muscular development.

If, then, scoliosis is due to insufficient muscular action, the only rational treatment is one affecting these muscles. As massage is very efficient in strengthening the muscles, the author believes this mode of treatment a very considerable improvement upon gymnastic exercise.

His method is a combination of "tapotement" and "redressement." The child, stripped to the waist, is laid in a prone position upon a mattress, with its arms extended out in front. The extensor muscles of the back are then tapped with increasing force with the fleshy portion of the hand below the little finger, motion being made only in the wrist-joint, for a period of five or eight minutes daily, or even twice daily. The entire extent of the back, from the hips to the neck, is thus treated. The "redressement" is first applied to the spinal column and subsequently to the ribs and thorax while the patient is standing, the idea being to correct any deformities that are thus amenable to treatment as well as rotary conditions. Finally active exercises are added, including suspensions.

In many cases gratifying results can be achieved after ten or twelve sittings; pain and intercostal neuralgia is often rapidly cured, even in cases of fixed scoliosis, where complete cure is not possible.

Orthopedic apparatus and corsets the author believes much inferior to massage for the reason that they tend to make the muscles degenerate still further; and although they permit straight carriage for a time, the weakness returns as soon as they are discarded. The patients, too, much prefer the treatment by massage, as it increases their sense of muscular action.

As for the time required for treatment, slight cases may be cured in a few months; others demand one year and more. Much, however, depends upon the condition of the bones and the age of the patient.—*Deut. Zeitschr. für Chir.* Bd. 23. H. 5 and 6. 1886.

W. W. VAN ARSDALE.

VI. The Treatment of White Swelling of the Knee. By A. B. JUDSON, M.D., (New York). The writer holds that white swelling or articular osteitis of the knee is an inflammatory affection attended by destruction and degeneration and followed as a rule by impairment of function. Its severity and duration are increased by use of the joint and also by impairment of the general health, which is reciprocally affected by the local disease. It has, however, a so-called natural cure, which occurs when the morbid process is supplanted by the reparative. The object of treatment is to prevent ultimate impairment of function and to hasten the natural cure by improving the general condition and removing causes of local aggravation. Function is to be preserved or restored by subduing inflammatory action. The health is to be maintained by appropriate medication and a proper amount of out-door exercise. Mechanical means should be adopted to secure activity in walking without injury to the affected part. Locally, fixation of the joint is suggested by the weakening and loss of the hard tissues of the joint and by the presence of hyperæmia, and enforced by the general rule that inflammation should be treated by arrest of function. The affected part should also be prevented from bearing the weight of the body, a precept which is suggested by the softened and excavated state of the bones and the infrequent occurrence of the disease in joints which are exempt from this duty, and enforced by the same general rule that the presence of inflammation demands the arrest of function. Fixation is conveniently secured and the deformity reduced by a simple retentive splint, making pressure from before backwards in the vicinity of the joint, and from behind forward at the upper part of the thigh and the lower part of the leg. Arrest of the weight-bearing function, or protection from violence in standing and walking, is to be secured by suspension of the limb, which is conveniently secured by the ischiatic crutch of Thomas of Liverpool, with a high-soled shoe on the foot of the unaffected limb.—*N. Y. Med. Jour.* June 6.

VII. The Use of Drills and Nails after Resection. J. A. WYETH, M.D., (New York), presented some steel drills for fixation of the knee-joint after resection, which he considered to be better

than nails since they could be introduced by drilling with less danger of crushing through the bones; the parts suffered no concussion or chance of displacement as when the hammer was employed; the drill point was smaller than the shaft so that, as it passed through the bone, it became tighter and tighter and remained perfectly firm. He used three of them in operation, two passing obliquely and laterally from the tibia to the femur, and a third in the median line downward from the femur to the tibia.

C. K. BRIDDON, M.D., (New York), thought that fixation of the bones was not attained by the wire suture or by nails as ordinarily used. He had observed that the nails cut through the cancellous tissue of the bones when driven from the femur into the tibia, or vice versa, and he thought that the bones were more surely maintained in position if the nails were driven in the exact center of the bone at the side and at a right angle to the axis of the bone, about three-quarters of an inch above the cut surfaces, one on either side of the femur and the tibia; these nails being wired together at the side of the bones, held them securely in position, a plaster of Paris dressing being applied outside of the wound-dressing.

A. G. GERSTER, M.D., (New York), reported a case of exsection of the knee joint for ankylosis, the result of an acute osteo-myelitis, in a girl, *æt.* 15. The extremities of the bone, on being brought into position, were secured by nails, the first one passing through the dense bony substance of the head of the tibia into the femur, and the other two passing from above downward from the femur into the tibia, securing excellent fixation and a good result. He had found the ordinary dry goods box nail to answer all purposes; the only precaution he should observe was that of placing his index finger between the bones and the popliteal space so that no nail could be driven through the bones into this space without the operator being aware of it, and also to prevent the occurrence of any lateral displacement during the operation.—*Proceedings N. Y. Surg. Soc.* 1886. May 10.

VIII. Excision for Chronic Disease of the Shoulder-Joint. By L. W. HUBBARD, M.D., (New York). The writer believes that early excision is the preferable treatment for chronic shoulder-joint disease, because of (1) the probability of as good if not better

restoration of the function of the limb, (2) the shorter time which will elapse before the patient will be able to use the limb; (3) the immediate improvement in general health which follows removal of the diseased tissue; (4) the removal of a possible source of general (tubercular) infection, without causing any deformity or disqualifying the patient from engaging in the ordinary pursuits of life—objections which are strong against excision of the joints of the lower extremity.—*Med. News.* 1886. April 24.

IV. Chronic Disease of the Shoulder. By V. P. GIBNEY, M.D., (New York). The purpose of this paper is to show by clinical illustrations the inefficiency of passive motion, with or without an anæsthetic, as a means of relieving fibrous ankylosis, and it may be regarded as supplementary to the preceding.—*Med. News.* 1886. May 1.

JAMES E. PILCHER (U. S. Army).

TUMORS.

I. On the Arsenical Treatment of Malignant Tumors. By Dr. F. KOEBEL (Tubingen). The author reviews the results achieved at the Tubingen Clinic (Prof. Bruns) in the treatment of certain malignant neoplasms by means of internal administration of arsenic.

As regards epithelial carcinomata various experiments were made at one time or another in inoperable cases of mammary disease, with local injections of arsenic; but in no cases were favorable results recorded.

Sarcomata, excepting those of the lymphatic glands, have likewise generally been regarded as incurable by means of arsenic. But the author gives a case of a man 39 years of age who presented multiple sarcomata in rapid growth when admitted to the hospital, and who was completely cured after three and one-half years' time by combined local and internal administration of arsenic. The diagnosis was assured by microscopic examination of an excised portion.

Lympho-sarcomata were not influenced in their course by arsenical treatment, as was proved by the observation of several cases.

The greater part of the paper is devoted to the consideration of malignant lymphomata, in the treatment of which arsenic has always played a conspicuous part.

In order to draw more correct inferences the author first reviews fifty-two cases collected from various sources, and then adds to this number seven cases of Prof. Bruns. He then proceeds to draw his conclusions. The ages of the patients varied equally between 7 months and 72 years. Males were twice as frequently affected as females. In 27 cases the neck alone was affected, in 13 cases the whole body. Statements as to the presence of leucæmia are incomplete. The treatment consisted in internal exhibition of Fowler's solution, increasing to a maximum of 40 to 45 drops daily, and in parenchymatous injections, gradually ascending to 0.4 or 0.5 ctm. daily.

As to the results attained complete cure was observed in 17 out of the 59 cases; but in five of these, recurrences are recorded; in the others no further notes are made. The time elapsing before the cure was complete varied from one to six months. Recurrences varied in the time of their appearance from two to eight months.

In 14 cases the recovery was partial. In 28 cases out of the 59 the treatment was altogether ineffectual. In some cases, however, the time allowed for observation was too short.

The author concludes that the treatment should be continued for at least two months in order to ascertain whether it will prove of avail or not, and recommends the trial of medicamental treatment with arsenic in all inoperable cases of malignant lymphoma, and in certain ones of general sarcomatosis. Although many cases are not cured, some brilliant results have been obtained by this method.—*Beiträge zur klin. Chirurg. Mittheil. aus der Chir. Klinik zu Tübingen*. II. Bd. 1. Hft. IV.

II. Contributions to the Pathology of Tumors. By Prof. WILH. ZAHN (Geneva). (Continued from Vol. III., No. 1, p. 95 of this journal.

7. *Two Cases of Chondro-osteoid Sarcoma of the Thyroid Body*. Although malignant tumors of the thyroid gland were formerly believed to be very rare, they are at present more frequently observed, since attention has been directed to them. The author alone saw five cases of carcinoma in nine years' time. Sarcomata of the thyroid, however, are still very rare, and chondro-osteoid sarcomata have never yet

been described. The author, therefore, now publishes two such cases.

A. *Thyroidal chondro-osteoid sarcoma with embryonal transversely striated muscle-fibrillæ and pigment cells occurring in a human fœtus.*

Still-born infant, presenting at birth a tumor the size of a man's fist situated on the anterior aspect of the neck and reaching from the chin to the sternum and laterally to the right ear. The superficies was uneven; the consistency different in the various parts. The skin above it was bluish in places, not adherent to the tumor. The thymus and cervical glands were normal.

The tumor consisted of several large cysts, which were very soft on pressure; a membrane of connective tissue covered each prominence. The contents of the cysts consisted of an inspissated reddish fluid, microscopically consisting of small round cells (similar to those of lymphatic glands) and capillary vessels. No stroma. Injection of the tumor did not give satisfactory results.

The tumor enveloped the trachea, larynx and œsophagus, and occupied the place of the thyroid body. An isthmus could be made out joining the two portions of the tumor.

Microscopic examinations revealed various histological elements. Small round cells grouped together without any intercellular tissue formed the main constituent part of the tumor. Peripherally much perfectly formed, highly vascular connective tissue was seen; circumscribed and well-defined deposits of cartilage, both embryonal and osseous cartilage, were found in both portions of the tumor; and cavities lined with epithelia (embryonal thyroid tissue), in the shape of follicles and tubes. Groups of pigment cells and bundles of striated spindle-cells (embryonal muscle tissue) were also present.

The diagnosis made was one of foetal thyroid tumor originating from the branchial formations.

B. *Chondro-osteoid sarcoma of the thyroid body and lymph in a dog.* This tumor consisted in its peripheral portion of firm connective tissue, which extended in places into the center of the tumor. Between these extensions and enclosed in them was much calcified and uncalcified cartilage tissue. Both together formed a reticulum in the spaces of which small round cells and spindle-cells were seen. Secondary nod-

ules were also found in the lungs, the smaller of which proved to be sarcomata, the large ones, however, also contained hyaline and osteoid cartilage-tissue. An acquired mixed tumor was diagnosed, and the author points out how both these two tumors described are of special interest in regard to the question of formation of mixed tumors; the one being an example of teratoid mixed tumors, the other of organoid ones (Virchow), with a co-formation of various elements, or a transformation (metaplasia, Virchow) respectively.

8. *A case of papillary cylindro-cellular adenoma of the thyroid body in a dog.* A dog had suffered from a tumor of the neck, as large as a man's fist, and had died from compression of the trachea. The tumor showed a canalicular structure with ramifications. The vascular capsule consisted of fibrillary connective tissue. The trabecular structure was composed of blood-vessels, from which capillary loops proceeded, covered with cylinder-epithelia. In this manner papillæ were formed. The interstices were filled with fine granular masses, which resembled coagulated albumen.—*Deutsch. Zeitschr. f. Chir.* Bd. 23. Hft. 3, 4. March. 1836.

W. W. VAN ARSDALE, (New York).

III. The Extirpation of Tumors of Scarpa's Triangle. By E. KIRMISSON, M.D., (Paris). This is a study of the topographical anatomy of the groin with especial relation to the removal of tumors. The greatest danger of operations here, rendering their performance very delicate, is the intimate relations between tumors and the great vessels of the groin. The ablation of superficial tumors, developed in the skin and subcutaneous connective tissue, is of but little interest, although the possibility that a superficial tumor may be found to have pushed out unsuspected deep prolongations, imposed upon the surgeon necessity for the greatest care even in apparently simple cases. In subaponeurotic tumors, the dissection should begin at their external face and extend inward, upward and downward, if necessary, so as to leave the tumor adherent only at the point corresponding to the sheath of the femoral vessels; then the dissection of the pedicle should follow. If the tumor is so large as to inconvenience the surgeon and hide the sheath of the vessels, which it is important for him to recognize both

with the finger and the eye, it may be removed in fractions, that portion which is the more particularly adherent to the vascular sheath being left in place. Not only should the pulsations of the artery be constantly under observation, but the plan followed by Denonvilliers, of first tracing the course of the vessel on the skin, in a case where the femoral artery was deviated, might be adopted. In the dissection of the adhesions of the tumor to the sheath of the vessels, three conditions may be found, giving rise to very different prognostic and therapeutic considerations. (1) It may be possible to destroy the adhesions completely, the femoral sheath remaining intact; (2) this sheath may be opened to a greater or less extent, and (3) in much the more serious cases it becomes necessary to involve the vascular walls in the operation by isolated section and ligature of the vein, or by resection and simultaneous ligature of the vein and artery. Simple denudation of the femoral vessels is of little gravity; in twelve cases of this kind death followed but twice and could not be attributed to the venous lesion. Moreover, denudation of the vessels may present two very different degrees; in the first the sheath is simply laid bare without being involved; in the second, a greater or less extent of the sheath is excised, and the walls of the vessels are directly exposed to contact with suppuration. In this case the chances of the development of sloughs in the vascular walls and of secondary hæmorrhage are evidently much greater. In a similar case the plan of Mosetig might be followed, who systematically incised the sheath of the vessels with the bistoury and the grooved director, separated each of the vessels from its normal position, and excised from between the two a large fragment of the neoplasm. When the femoral vein is involved, the prognosis becomes much more grave; of eight of this kind four were fatal. This result of lesion of the femoral vein will often be present, for the walls of the vein are infinitely less resistant to the invasion of neoplasms than the arterial; furthermore, most of the tumors, being glandular, are brought into closer relations with the vein than with the artery. In case of a wound of the vein, ligature of the corresponding artery would not control the hæmorrhage, while ligature of the vein itself, far from causing gangrene, is more

rarely followed by it than simultaneous ligature of the vein and artery, and should be adopted.

Coming finally to the cases in which ablation of the tumor necessitates resection and simultaneous ligature of the artery and the vein, it is observed that these cases are much more grave, since in seven cases collected, five terminated fatally; however, it would seem proper to make a distinction between the cases in which the resection and ligature are to be practiced above and below the origin of the profunda femoris vessels. In the middle of the thigh or in the popliteal space, simultaneous resection of the two principal vessels may be employed. In Scarpa's triangle, on the contrary, where the resection would much more frequently occur above the profunda vessels, this course exposes the limb to gangrene and cannot be recommended. If then careful examination of the patient shows the necessity of simultaneous resection of the artery and vein at the base of Scarpa's triangle, it would be best to abstain. However, it may occur that, during the operation itself, lesions may be recognized which the most careful examination had not been able to suspect; in these cases the extirpation may be left complete, or, relying upon certain fortunate cases in which ligature of both femoral vessels above the origin of the profunda vessels has been followed by recovery, resection may be adopted. It is a question of indications and contraindications, the solution of which will depend upon the age of the patient, his general condition and the state of the vascular system. The crural nerve and its branches are less exposed to injury by extirpation of tumors of the thigh than the vessels; cases are lacking to show the ulterior consequences of section of these nerves. The possibility of wounding the peritoneum in this space is noted, and the case of Eugene Bœckel, in which this occurred, the peritoneal wound being sutured with catgut, with recovery referred, to. The possibility of the existence of a femoral hernia below a neoplasm renders care desirable. Finally, the frequency of erysipelas after extirpation of tumors of the groin is remarked and attributed to the abundance of lymphatic vessels.—*Revue de Chirurgie*. 1886. May.

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